

**THE PATENT OFFICE OF THE PEOPLE'S REPUBLIC OF CHINA**

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| Applicant: CISCO TECHNOLOGY, INC.  |
| Application No. 02828199.3   |
| Title of the Invention: METHODS AND APPARATUS FOR NETWORK CONGESTION CONTROL |

**THE SECOND OFFICE ACTION**

1. ☒ the examiner received the response submitted by the applicant on July 22, 2008 and further examination as to substance has been carried out on the above-identified patent application for invention on this new basis.

☐ According to the Reexamination Decision made by the Patent Reexamination Board of the Patent Office on \_\_\_\_\_ examination as to substance on the above-identified application has been resumed.

2. ☐ Amended documents submitted by the applicant on \_\_\_\_\_ can not be allowed based on the provision of paragraph 3, Rule 51 of the Implementing Regulations of the PRC Patent Law.

3. Further examination as to substance has been carried out based on the documents as specified below:

☐ The amended application documents attached to the reponse to the previous Office Action.

☒ The application documents based on which the previous examination was carried out and the substitution pages attached to the reponse to the previous Office Action.

☐ The application documents based on which previous examination was carried out.

☐ The application documents confirmed by the Reexamination Decision.

4. ☒ No new references were cited in this notification.

☐ The following reference materials have been cited in this notification (their serial numbers will be referred to in the following procedure):

| Serial Number | Number or Title of Reference Material | Publication Date (or Filing Date of A Conflict Patent Application) |
|---------------|---------------------------------------|--|
|               |                                       |  |

5. The conclusion of the examination:

☐ In regard to the description:

☐ The amendments to the description do not comply with Article 33 of the Patent Law.

☐ The subject matter contained in the application is not patentable under Article 5 of the Patent Law.

☐ The description does not comply with Article 26 paragraph 3 of the Patent Law .

☐ The description is not in conformity with the provision of Rule 18 of the Implementing Regulations of the PRC Patent Law.

☒ In regard to the Claims:

- ☐ The amendments to claims \_\_\_ do not comply with Article 33 of the Patent Law.
- ☐ Claims \_\_\_ is/are not patentable under Article 25 of the Patent Law.
- ☐ Claims \_\_\_ do not belong to the definition of invention based on the provision of paragraph 1, Rule 2 of the Implementing Regulations of the PRC Patent Law.
- ☐ Claims \_\_\_ can not be allowed owing to lack of novelty based on the provision of paragraph 2, Article 22 of PRC Patent Law.
- ☒ Claims 1-54 can not be allowed owing to lack of inventiveness based on the provision of paragraph 3, Article 22 of PRC Patent Law.
- ☐ Claims \_\_\_ can not be allowed owing to lack of the practical applicability based on the provision of paragraph 4, Article 22 of PRC Patent Law.
- ☐ Claims \_\_\_ can not be allowed based on the provision of paragraph 4, Article 26 of PRC Patent Law.
- ☐ Claims \_\_\_ can not be allowed based on the provision of paragraph 1, Article 31 of PRC Patent Law.
- ☐ Claims \_\_\_ can not be allowed based on the provision of Rules 20 of the Implementing Regulations of the PRC Patent Law.

**The explanation of the conclusion is given in the attachment sheet in details**

6. According to the above conclusion, it is considered that

- ☐ The applicant should amend the application documents based on the request in the Attachment Sheet.
- ☐ The applicant should state the reason on which the application can be accepted and amend the part that is indicated not to be in conformity with the requirement, otherwise the application will be rejected.
- ☒ No subject matter in the application is accepted, said application will be rejected if the applicant does not make a statement or fail to make a statement.

7. The applicant is drawn attention to that

- ( 1 ) in accordance with the provisions of Article 37 of the Chinese Patent Law, the applicant shall submit the observations within two months from the date of receiving this notification. If the applicant, without any justified reason, fails to reply within the time limit, the application shall be deemed to have been withdrawn.
- ( 2 ) the applicant shall make amendments to what is not in conformity with the provisions in the text of this notification. The amended text shall be furnished in duplicate. The formality of the document should be in conformity with the relative provisions of the Guidebook for Examination.
- ( 3 ) the applicant and/or his attorney could not go to the PRC Patent Office to meet the examiner if no appointment is made.
- ( 4 ) any response and/or amended specification must be mailed or sent by hand to the Receiving Department of the PRC Patent Office. Any documents that are not sent to the Receiving Department do not have legal force.

8. The text of the notification embraces 3 pages, along with the enclosures herein:

- ☐ \_\_\_ copy of the cited references is enclosed in pages of \_\_\_\_.

**Patent Examination Assistance Center**

**Examiner: Tingting LI(9510)**

## **TEXT OF THE SECOND OFFICE ACTION**

None of the claims 1-54 possesses inventiveness as stipulated by Article 22, Paragraph 3 of the *Patent Law of the PRC*.

1. Claim 1 seeks protection for a method for controlling congestion at a network switch. Reference 1 (CN1141701A; refer to page 3, line 2 from the bottom to page 9, line 7 of the description and Figs. 1-6, which corresponds to page 5, line 30 to page 14, line 28 of the publication No. WO95/15637 of the counterpart international application thereof) discloses a method for congestion management in a frame relay network, and specifically discloses the following technical features: the network comprises subscriber nodes to which subscribers are connected over data links; the method determines the virtual channel associated with a frame to be transmitted when it is received at a network node; congestion notifications are transmitted in a backward direction from the network nodes to the subscriber node of the virtual channel whose frame is received at that particular moment; the congestion notifications indicate the fill rate of the buffers at the network node; and the bandwidth is adjusted upon receiving the congestion notification by the subscriber nodes, and the amplitude to be adjusted is determined based on the degree of congestion at the network nodes indicated by the congestion notifications. As can be seen, the method of claim 1 is different from reference 1 in the followings: in the method of claim 1, an instruction is sent to the source node and transmissions from an intermediate switch are reduced; a frame sent by the source node, which is transmitted to the network switch via a first switch is further received; and the first instruction having a source identifier field corresponding to the destination node and a destination identifier field corresponding to the source node. The technical problem to be solved is to implement receipt of instructions and corresponding controls at different nodes of network, respectively, and to transmit data and instructions between the intermediate switches of the network. It is disclosed in reference 1 that the congestion notifications are transmitted from the network nodes to the subscriber node, and it is well known by those skilled in the art that the respective nodes in a network comprise switches/routers for relay, the collaboration of which prompts the normal operation of the network, and thus it could be easily conceived that the sent instructions and the corresponding controls are implemented at different nodes. Moreover, it is common knowledge for those skilled in the art that a frame needs to be relayed before reaching the destination node and certain information, when being sent to a certain destination, contains a source address and a destination address. It is obvious to incorporate common knowledge on the basis of reference 1 to obtain the technical solution of claim 1. Therefore, claim 1 neither has prominent substantive features nor represents a notable progress, and thus does not possess inventiveness as stipulated by Article 22, Paragraph 3 of the *Patent Law of the PRC*.

The apparatus claim 54 corresponds to the method claim 1, and thus for the reasons

similar to those on claim 1, claim 54 does not possess inventiveness as stipulated by Article 22, Paragraph 3 of the *Patent Law of the PRC* either.

2. Claim 22 seeks protection for a method for controlling traffic flow between first and second end nodes through first and second intermediate nodes. Reference 1 discloses a method for congestion management in a frame relay network, and specifically discloses the following technical features: the network comprises subscriber nodes to which subscribers are connected over data links; the method determines the virtual channel associated with a frame to be transmitted when it is received at a network node; congestion notifications are transmitted in a backward direction from the network nodes to the subscriber node of the virtual channel whose frame is received at that particular moment; the congestion notifications indicate the fill rate of the buffers at the network node; and the bandwidth is adjusted upon receiving the congestion notification by the subscriber nodes, and the amplitude to be adjusted is determined based on the degree of congestion at the network nodes indicated by the congestion notifications. As can be seen, claim 1 is different from reference 1 in the followings: in the topology of the network in the method of claim 22, there are two relay points between the source node and the destination node; the frame is transmitted to the second intermediate node via the first intermediate node; a second frame including a second instruction to adjust rate is sent to the second end node; the frame has a source identifier and a destination identifier; and the instructions adjust the current allowed rate from the first end node to the second end node. The technical problem to be solved is to implement receipt of instructions and corresponding controls at different nodes of network, respectively, and to transmit data between the nodes of the network. It is disclosed in reference 1 that the congestion notifications are transmitted from the network nodes to the subscriber node, and it is well known by those skilled in the art that the topology of a network could be set to a different structure in accordance with specific situations and when the number of relay points between the source node and the destination node is more than or equal to two, it is a customary technical means to transmit the instructions to all of the relay points therebetween, and thus it could be easily conceived that the sent instructions and the corresponding controls are implemented at different nodes. Moreover, it is common knowledge for those skilled in the art that a frame needs to be relayed before reaching the destination node and certain information, when being sent to a certain destination, contains a source address and a destination address. It is obvious to incorporate common knowledge on the basis of reference 1 to obtain the technical solution of claim 22. Therefore, claim 22 neither has prominent substantive features nor represents a notable progress, and thus does not possess inventiveness as stipulated by Article 22, Paragraph 3 of the *Patent Law of the PRC*.

3. Claim 38 seeks protection for a switch for controlling the traffic flow between a source node and a destination node. Reference 1 discloses a system for congestion management in a frame relay network, and specifically discloses the following

technical features: the system comprises subscriber nodes; the subscriber nodes have input terminals and output terminals that are used to receive and transmit data respectively; the input terminals have sorters for sorting data and transmit the sorted data to the buffers; each data link has four buffers and a dedicated selector which selects frames from the input buffers; and a control component is connected to the dedicated selector, for controlling the amount of data read from buffers dedicated to each virtual channel on the basis of the contents of congestion notifications. As can be seen, claim 38 is different from reference 1 in the followings: the first queue of the switch further includes a second portion for holding data for transmission through the second port, and the filter of the switch receives data from the first queue and determines whether transmission of the data should be delayed based on information received from the second external node. The technical problem to be solved is to implement bi-directional receipt of a switch and to control data transmissions according to instructions received from other nodes. For those skilled in the art, it is common knowledge for the buffers of the relay nodes in the network to store data respectively from the both ends. Moreover, if required, the filtering function and control function can be integrated in the same component to save the components, or the two functions can be performed by different components to improve efficiency, and corresponding controls (for example, data transmission rate control) are performed according to instructions received from other nodes (for example, adjacent nodes), which are both customary technical means. It is obvious to incorporate common knowledge on the basis of reference 1 to obtain the technical solution of claim 38. Therefore, claim 38 neither has prominent substantive features nor represents a notable progress, and thus does not possess inventiveness as stipulated by Article 22, Paragraph 3 of the *Patent Law of the PRC*.

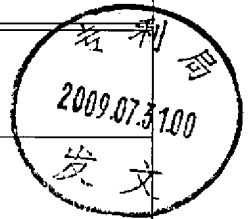
4. Referring to the comments of the examiner in the first Office Action, claims 2-21, 23-37, and 39-53 do not have prominent substantive features and do not represent a notable progress yet, and thus do not possess inventiveness as stipulated by Article 22, Paragraph 3 of the *Patent Law of the PRC*.

For the foregoing reasons, none of the claims of the application possesses inventiveness, and there are no any other patentable substantive features described in the description. Therefore, even if the applicant recombines the claims and/or further defines the claims in accordance with the contents described in the description, the application is not possible to be granted a patent right yet. Moreover, the examiner has issued two Office Actions on the application, in which the application is pointed out to be not possible to be granted a patent right. If the applicant cannot state sufficient reasons as to why this application has inventiveness, the application will be rejected.

*Examiner:* Tingting LI  
*Code:* 9510



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| 100738<br>北京市东城区东长安街1号东方广场东方经贸城东2座1602室<br>北京东方亿思知识产权代理有限公司<br>王怡 | 发文日 |
| 申请号: 028281993<br>  |     |
| 申请人: 思科技术公司   |     |
| 发明名称: 网络拥塞控制方法和装置   |     |



## 第 2 次审查意见通知书

1. ☒ 审查员已收到申请人于2008年7月22日提交的意见陈述书,在此基础上审查员对上述专利申请继续进行实质审查。

☐ 根据国家知识产权局专利复审委员会于 年 月 日作出的复审决定,审查员对上述专利申请继续实质审查。

☐

2. ☐ 申请人于 年 月 日提交的修改文件,不符合专利法实施细则第51条第3款的规定。

3. 继续审查是针对下述申请文件进行的:

☐ 上述意见陈述书中所附的经修改的申请文件。

☒ 前次审查意见通知书所针对的申请文件以及上述意见陈述书中所附的经修改的申请文件替换页。

☐ 前次审查意见通知书所针对的申请文件。

☐ 上述复审决定所确定的申请文件。

☐

4. ☒ 本通知书未引用新的对比文件。

☐ 本通知书引用下述对比文件(其编号续前,并在今后的审查过程中继续沿用):

编号

文件号或名称

公开日期(或抵触申请的申请日)

5. 审查的结论性意见:

☐ 关于说明书:

☐ 申请的内容属于专利法第5条规定的不授予专利权的范围。

☐ 说明书不符合专利法第26条第3款的规定。

☐ 说明书的修改不符合专利法第33条的规定。

☐ 说明书的撰写不符合专利法实施细则第18条的规定。

☐

☒ 关于权利要求书:

☐ 权利要求 不具备专利法第22条第2款规定的新颖性。

☒ 权利要求 1-54 不具备专利法第22条第3款规定的创造性。

☐ 权利要求 不具备专利法第22条第4款规定的实用性。

☐ 权利要求 属于专利法第25条规定的不授予专利权的范围。

☐ 权利要求 不符合专利法第26条第4款的规定。

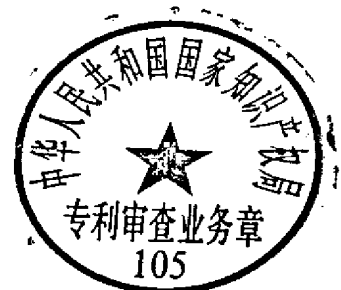
☐ 权利要求 不符合专利法第31条第1款的规定。

☐ 权利要求 的修改不符合专利法第33条的规定。

☐ 权利要求 不符合专利法实施细则第2条第1款的规定。

☐ 权利要求 不符合专利法实施细则第13条第1款的规定。

☐ 权利要求 不符合专利法实施细则第20条的规定。



- ☐ 权利要求\_\_\_\_\_不符合专利法实施细则第 21 条的规定。  
☐ 权利要求\_\_\_\_\_不符合专利法实施细则第 22 条的规定。  
☐ 权利要求\_\_\_\_\_不符合专利法实施细则第 23 条的规定。

☐ \_\_\_\_\_  
☐ 分案的申请不符合专利法实施细则第 43 条第 1 款的规定。

上述结论性意见的具体分析见本通知书的正文部分。

6. 基于上述结论性意见, 审查员认为:

- ☐ 申请人应按照通知书正文部分提出的要求, 对申请文件进行修改。  
☐ 申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由, 并对通知书正文部分中指出的不符合规定之处进行修改, 否则将不能授予专利权。  
☒ 专利申请中没有可以被授予专利权的实质性内容, 如果申请人没有陈述理由或者陈述理由不充分, 其申请将被驳回。

☐ \_\_\_\_\_

7. 申请人应注意下述事项:

- (1) 根据专利法第 37 条的规定, 申请人应在收到本通知书之日起的贰个月内陈述意见, 如果申请人无正当理由逾期不答复, 其申请将被视为撤回。  
(2) 申请人对其申请的修改应符合专利法第 33 条和实施细则第 51 条的规定, 修改文本应一式两份, 其格式应符合审查指南的有关规定。  
(3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处, 凡未邮寄或递交给受理处的文件不具备法律效力。  
(4) 未经预约, 申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

8. 本通知书正文部分共有3页, 并附有下列附件:

- ☐ 引用的对比文件的复印件共\_\_\_\_\_份\_\_\_\_\_页。

☐ \_\_\_\_\_

审查员: 李婷婷 (9510)

李婷婷

审查部门 审查协作中心



## 第二次审查意见通知书

权利要求1—54均不符合专利法第22条3款有关创造性的规定：

1. 权利要求1要求保护一种控制网络交换机处拥塞的方法，对比文件1(CN1141701A 参见说明书3页倒数第2行至第9页第7行，附图1—6)公开了一种帧中继网络中的拥挤管理方法，并具体披露了如下技术特征：所述网络包括用户节点，用户经过数据链路连接到用户节点上，当在网络节点接收将要发送的帧时确定与该帧相关联的虚拟通道，在向后方向将拥挤通知从网络节点发送到其帧在特定时刻接收的虚拟通道的用户节点，所述拥挤通知指示所述网络节点处缓冲器的填充率，用户节点接收到所述拥挤通知后，即进行带宽的调整，至于其调整幅度，则根据所述拥挤通知中指示的网络节点处的拥挤程度而定。由此可知，二者的区别在于权利要求1所述方法向源节点发送指令并减少从中间交换机的传输，还包括接收经由第一交换机被传送到网络交换机处的源节点发送的帧，以及所述第一指令具有对应于所述目的地节点的源标识符字段和对应于所述源节点的目的地标识符字段。其要解决的技术问题是在网络的不同节点处分别实现指令接收以及相应控制，以及在网络的各中级交换机之间传送数据、指令。对比文件1已经公开其拥挤通知从网络节点发送到用户节点，且所属领域技术人员公知网络中各节点还包括各个用于进行中继的交换机/路由器等，其相互之间的协作构成了网络的正常运行，因此进而将发送的指令及相应的控制分别实现在不同的节点亦是容易想到的，此外对于所属领域技术人员来说，网络中的帧在到达目的节点之前需要经过中继，以及要将某一信息发送到某一目的地，所述信息中要包含源地址和目的地址，其均为公知常识，在对比文件1的基础上结合上述公知常识以得到权利要求1要保护的技术方案是显而易见的，因此权利要求1不具备突出的实质性特点和显著的进步，不符合专利法第22条3款有关创造性的规定。

装置权利要求54相应于方法权利要求1，因此基于与评述权利要求1相似的理由，权利要求54同样不符合专利法第22条3款有关创造性的规定。

2. 权利要求22要求保护一种用于控制第一和第二端节点之间的经过第一和第二中间节点的业务流的方法，对比文件1公开了一种帧中继网络中的拥挤管理方法，并具体披露了如下技术特征：所述网络包括用户节点，用户经过数据链路连接到用户节点上，当在网络节点接收将要发送的帧时确定与该帧相关联的虚拟通道，在向后方向将拥挤通知从网络节点发送到其帧在特定时刻接收的虚拟通道的用户节点，所述拥挤通知指示所述网络节点处缓冲器的填充率，用户节点接收到所述拥挤通知后，即进行带宽的调整，至于其调整幅度，则根据所



述拥挤通知中指示的网络节点处的拥挤程度而定，由此可知，二者的区别在于权利要求22所述方法中的网络的拓扑结构中，在源节点和目的节点之间包括两个中继点，所述帧经由第一中间节点被传送到第二中间节点，包含指示进行速率调整的第二指令的第二帧被发送到第一端节点，所述帧包含源标识符以及目的地标识符，并且所述指令调整从第一端节点到第二端节点的当前允许速率。其要解决的技术问题是在网络的不同节点处分别实现指令接收以及相应控制，以及在网络的节点之间传送数据。对比文件1已经公开其拥挤通知从网络节点发送到用户节点，且所属领域技术人员公知，网络拓扑可根据具体情况设置为不同结构，当源节点与目的节点之间的中继点大于等于两个时，将指令传送到其间的所有中继点为常用的技术手段，因此进而将发送的指令及相应的控制分别实现在不同的节点亦是容易想到的，此外对于所属领域技术人员来说，网络中的帧在到达目的节点之前需要经过中继，以及要将某一信息发送到某一目的地，所述信息中要包含源地址和目的地址，其均为公知常识，在对比文件1的基础上结合上述公知常识以得到权利要求22要保护的技术方案是显而易见的，因此权利要求22不具备突出的实质性特点和显著的进步，不符合专利法第22条3款有关创造性的规定。

3. 权利要求38要求保护一种用于控制源节点和目的地节点之间的业务流的交换机，对比文件1公开了一种帧中继网络中的拥挤管理系统，所述系统包括用户节点，所述用户节点具有输入端和输出端，分别用于数据的接收和发送，所述输入端具有分类器用于对数据进行分类，并将分类好的数据发送到缓冲器，每条数据链路具有4个缓冲器，一个专用选择器，所述选择器从输入缓冲器中选择帧，控制部件连接到专用选择器，用于根据拥挤通知的内容控制从每条虚拟通道专用的缓冲器所读的数据的量。由此可知，二者的区别在于权利要求38所述交换机的第一队列还包括容纳通过第二端口传输数据的第二部分，所述交换机的过滤器从所述第一队列接收数据，并基于从第二外部节点接收到信息确定数据传输是否应被延迟。其要解决的技术问题是实现交换机的双向接收，以及根据从其他节点接收的指令进行数据传输控制。对于所属领域技术人员来说，网络中的中继节点的缓冲器可用于存储分别来自两端的数据为公知常识，此外，根据具体要求，如为了部件的节省将过滤功能与控制功能集成在同一部件内或为了提高效率将两功能分别使用不同的部件，并且根据从网络中其他节点如相邻节点等接收到的指令进行相应的控制如数据传输速率控制均为常用的技术手段，在对比文件1的基础上结合上述公知常识以得到权利要求38要保护的技术方案是显而易见的，因此权利要求38不具备突出的实质性特点和显著的进步，不符合专利法第22条3款有关创造性的规定。

4. 参见审查员在《第一次审查意见通知书》中的评述, 权利要求2—21, 23—37, 39—53仍不具备突出的实质性特点和显著的进步, 不符合专利法第22条3款有关创造性的规定。

基于上述理由, 本申请的权利要求1—54都不具备创造性, 同时说明书中也没有记载其他任何可以授予专利权的实质性内容, 因而即使申请人对权利要求进行重新组合和 / 或根据说明书记载的内容作进一步的限定, 本申请也不具备被授予专利权的前景。并且审查员已就本申请发出两次审查意见通知书, 均指出本申请无授权前景, 如果申请人不能在本通知书规定的答复期限内提出表明本申请具有创造性的充分理由, 本申请将被驳回。